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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/760,308

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Rolf Nuchter

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SUGHRUE MION, PLLC
2100 PENNSYLVANIA AVENUE, N.W.
SUITE 800
WASHINGTON, DC 20037

EXAMINER

RUTKOWSKI, JEFFREY M

ART UNIT

PAPER NUMBER

2619

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/760,308	Applicant(s) NUCHTER, ROLF	
	Examiner JEFFREY M. RUTKOWSKI	Art Unit 2619	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 April 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 January 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

2. Figure 3 is objected to under 37 CFR 1.83(a) because it fails to show the power amplifier, transmitter, transmitting station and telecommunications system as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. **Claims 1-10 and 12-15** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. **Claim 1** is indefinite because the final wherein clause on line 11 of the claim recites that two of at least two null time slots occur before and after one data time slot is unclear. The Examiner has interpreted the timeslots to be arranged as: NULL-NULL-DATA-NULL-NULL. From this arrangement, it appears there is a need for at least four separate null timeslots, instead of two.

6. **Claim 2** is indefinite because it is unclear if the checking and the adjusting are being done at the same time or if the adjustment is being checked.

7. **Claims 9-10** are indefinite because there is no recitation of steps being performed by the processor.

8. **Claims 12-15** are indefinite because there is not recitation of parts that make up the devices.

Claim Rejections - 35 USC § 101

9. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

10. **Claims 9-10** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claims are directed to a computer program per se.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

12. **Claims 1-10** are rejected under 35 U.S.C. 103(a) as being unpatentable over Afrashteh et al. (US Pat 5,426,641), hereinafter referred to as Afrashteh in view of Hirvilampi (US Pat 6,351,189).

13. For **claim 1**, Afrashteh discloses a quiescent drain current measurement is used to check the bias of an amplifier. If the quiescent drain current is too high the bias of the amplifier is adjusted towards a cutoff voltage. Conversely, if the quiescent drain current is too low the bias of the amplifier is adjusted away from a cutoff voltage. A microprocessor compares the quiescent drain current (actual operating point) to a desired value (set operating point) to detect

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the deviation between the values. The results of the comparison are then sent to a bias control circuit [col. 16 lines 4-28]. Figure 3 shows the steps are carried out during two separate null timeslots.

14. Afrashteh does not disclose detecting an occurrence of null timeslots. Hirvilampi discloses a bias control circuit that uses a switching device that detects null timeslots by switching to a bias control circuit when an amplifier is not transmitting [col. 6 lines 59-63]. Hirvilampi's invention bias adjustments are performed when the amplifier is not transmitting (null timeslots), including two separate null timeslots [col. 6 lines 54-56]. Since information can only be transmitted in only one of eight time slots [col. 4 lines 25-30], Hirvilampi suggests that two null timeslots could occur before and after a data slot. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use Hirvilampi's bias adjustment mechanism in Afrashteh's invention to provide for the auto-biasing of an amplifier [Hirvilampi, title].

15. For **claim 2**, Afrashteh discloses checking and adjusting the bias [col. 15 lines 53-60].

16. For **claim 3**, Afrashteh does not disclose the consecutive occurrence of null timeslots. Hirvilampi discloses information can only be transmitted in only one of eight time slots [col. 4 lines 25-30], which suggests null timeslots occur consecutively. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use Hirvilampi's consecutive null timeslots to perform bias adjustment in Afrashteh's invention to provide time for the auto-biasing of an amplifier [Hirvilampi, title].

17. For **claim 4**, Afrashteh does not teach the use of control loops. Hirvilampi teaches the control loop limitation absent from the teachings of Afrashteh by disclosing an auto-bias system

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that uses a feedback loop (control loop) to adjust the bias of an amplifier between transmission periods (null timeslots) [**abstract**]. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use a control loop in Afrashteh's invention to ensure a signal is properly amplified [**Hirvilampi, col. 5 lines 5-10**].

18. For **claim 5**, Afrashteh discloses changes in temperature require the bias point to be readjusted [**col. 14 line 66 to col. 15 line 3**].

19. For **claim 6**, Afrashteh discloses the bias is the gate voltage of an amplifier [**col. 16 line 20**].

20. For **claims 7 and 8** Afrashteh suggests waiting until a transistor has reached a steady state temperature by disclosing the bias adjustment does not start until a few timeslots (at least three null timeslots) after the transmission timeslot [**figure 3**].

21. For **claims 9-10**, the combination of Afrashteh and Hirvilampi discloses a microprocessor **210**, which has a computer program stored thereon, for performing the **claim 1** method steps [**Afrashteh, col. 16 lines 5-10**].

22. **Claims 11-15** are rejected under 35 U.S.C. 103(a) as being unpatentable over Afrashteh in view of Hirvilampi and Domino et al. (US Pat 6,259,752), hereinafter referred to as Domino.

23. For **claims 11 and 12**, Afrashteh teaches a power amplifier is made up of a high gain transistor (MESFET), a resistor **211** (shunt) connected in series with a drain circuit **205** and a microprocessor **210** (controlling unit) [**col. 15 lines 30-35, col. 16 lines 4-6 and figure 2**].

24. Afrashteh teaches the microprocessor performs deviation detection. The adjustment of the bias is performed by the gate bias control unit **204** [**col. 16 lines 10-28**], not the microprocessor. Domino teaches the adjustment of bias by a controlling unit limitation absent

from the teachings of Afrashteh by disclosing a DSP chip that processes data and adjusts a bias value [**col. 7 lines 7-12, 25-30 and figure 1**]. It would have been obvious to a person of ordinary skill in the art at the time of the invention use a single software application to implement the method steps of **claim 1** in Afrashteh's invention since DSP chips are more powerful than general-purpose microprocessors via being more application specific.

25. Afrashteh does not disclose detecting an occurrence of null timeslots. Hirvilampi discloses a bias control circuit that uses a switching device that detects null timeslots by switching to a bias control circuit when an amplifier is not transmitting [**col. 6 lines 59-63**]. Hirvilampi's invention bias adjustments are performed when the amplifier is not transmitting (null timeslots), including two separate null timeslots [**col. 6 lines 54-56**]. Since information can only be transmitted in only one of eight time slots [**col. 4 lines 25-30**], Hirvilampi suggests that two null timeslots could occur before and after a data slot. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use Hirvilampi's bias adjustment mechanism in Afrashteh's invention to provide for the auto-biasing of an amplifier [**Hirvilampi, title**].

26. For **claims 13-15**, which depend from **claims 11 and 13**, Afrashteh teaches an amplifier used in a radio network environment (telecommunication system). The telecommunications system includes portables (radio transmitters) and base stations (radio transmitting base station) [**figure 1**].

Response to Arguments

27. Applicant's arguments with respect to **claims 1-15** have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

28. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEFFREY M. RUTKOWSKI whose telephone number is (571)270-1215. The examiner can normally be reached on Monday - Friday 7:30-5:00 PM EST. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

29. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jeffrey M Rutkowski
Patent Examiner
06/14/2008

/Hassan Kizou/
Supervisory Patent Examiner, Art Unit 2619